S/123/60/000/024/014/014
A005/A001

The Effect of the Grain Size on the Corrosion Resistance of an Anodized Surface

thickness and density can be obtained. The studies are described which were conducted in the MINKh and GP on the effect of the aluminum grain size on the protecting properties of its anodized layer. The investigations showed that the protecting properties of the anodized layer on its surface increase with increasing aluminum grain size. There are 4 figures.

I.R.G.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

TARAN, V.D., doktor tekhn.nauk prof.

Training engineers for the construction of main pipelines. Stroi. truboprov. 5 no.3:25-26 Mr '60. (MIRA 13:9)

1. Zaveduyuchchiy kafedroy sooruzheniya magistral'nykh truboprovodov, gazokhranilishch i neftebaz Moskovskogo instituta neftekhimicheskoy i gazovoy promyshlennosti imeni akad. I.M.Gubkina.
(Gas, Natural-- Pipelines)

TARAN, V.D., prof., doktor tekhn.nauk; ZAKSON, R.I., kand.tekhn.nauk

Brittleness of steel in sheet construction elements. Prom. stroi. 38 no.10:29-32 '60. (MIRA 13:9)

(Steel--Brittleness)

S/135/61/000/002/004/012
A006/A001

AUTHORS: Taran, V. D., Professor, Doctor of Technical Sciences, Skugorova, L.P., Candidate of Technical Sciences

TITLE: Electron-Microscopic Investigation of Ferrite Streaks in Main Pipeline Butts

PERIODICAL: Svarochnoye proizvodstvo, 1961, No. 2, pp. 12-15

TEXT: The presence of a ferrite streak located at the border of the joint is characteristic of press-welded main pipeline butts. Opinions in literature are contradictory on the property and formation conditions of the ferrite streak. A spectral analysis has shown (Ref. 5) that joints produced by resistance fusion welding are characterized by a homogeneous chemical composition of the base and weld metals. The joint is formed by connecting heated pipe butts by a pressure of 600 kg/cm^2 and higher. It is assumed that the ferrite streak appears as a result of pressure. A study of the nature and formation conditions of this ferrite streak will permit the determination of factors affecting the evaluation of the property of weld joints in resistance welding. In this connection the authors investigated the fine structure of the ferrite streak by the electron-microscopic method using

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S/135/61/000/002/004/012
A006/A001

Electron-Microscopic Investigation of Ferrite Streaks in Main Pipeline Butts

the ЭМ-3 (EM-3) electron microscope at 5,000 - 10,000 magnification. The structure of welds was studied on the МИМ-8 (MIM-8) microscope and ferrite microhardness was measured on the ПМТ-3 (PMT-3) device under 100 and 50 g load. Specimens were cut out of large diameter pipes resistance fusion-welded on a portable КТСА-1 (KTSA-1) machine. The pipes were made of 10Г2СД (10G2SD) steel, their diameter was 529 mm; their walls were 7 mm thick. Welding conditions were: specific power 2 kw/cm^2; upsetting pressure - 4 kg/mm^2; fusion - 25 mm; upsetting - 11 mm. Butts made with disalignment and with alignment of edges were examined (Fig. 1). The investigation has shown that recrystallization of the metal in the plastic zone of the weld joint is accomplished during resistance welding in the whole temperature range (from solidus temperature 200 - 400°C) under the external upsetting pressure which practically does not change in the course of the process. The formation of the weld structure is noticeably affected by pressure which is usually not taken into account when investigating structural processes (external independent condition). Therefore the ferrite streak forming under the effect of external pressure, is different from conventional ferrite forming during heat treatment. The ferrite in the streak is stronger than that in the base metal, whereas the ferrite grains of the base metal show a greater capacity of being

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S/135/61/000/002/004/012
A006/A001

Electron-Microscopic Investigation of Ferrite Streaks in Main Pipeline Butts

etched than the ferrite streak grains.

Figure 1
Macrostructure of butts produced by resistance welding with disalignment of edges

Figure 1:

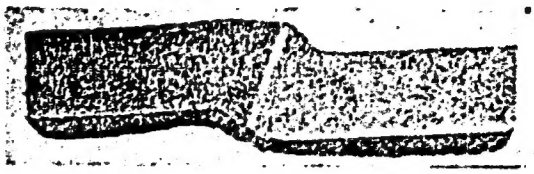

Figure 5
Electron-microscopic ferrite structure of the streak (butt produced with alignment of edges) x 10,000

Figure 5:

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S/135/61/000/002/004/012
A006/A001

Electron-Microscopic Investigation of Ferrite Streaks in Main Pipeline Butts

Table
Microhardness of ferrite in kg/mm^2

Load in g	Microhardness of ferrite streak	Microhardness of base metal ferrite of the pipe at a distance from the streak in mm	
		5	10
100	206 - 254 / 221	181 - 206 / 198	-
50	192 - 232 / 224	161 - 192 / 173	137 - 175 / 156

There are 1 table, 6 figures and 11 references: 9 Soviet and 2 English.

ASSOCIATION: Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni Gubkina (Moskow Institute of Petroleum Chemistry and Gas Industry imeni Gubkin)

Card 4/4

TARAN, V.D.; SKUGOROVA, L.P.

Choosing tool steels for roller bits. Trudy MINKHiGP no.34:20-30 '61. (MIRA 14:12)

(Tool steel--Testing)
(Boring machinery)

TARAN, V.D.; SKUGOROVA, L.P.

Choice of material for three roller bits. Izv. vys. ucheb. zav.; neft' i gaz 4 no.4:109-116 '61. (MIRA 15:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.
(Oil well drilling--Equipment and supplies)

TARAN, V.D., prof., doktor tekhn.nauk; KOCHERGOVA, Ye.Ye., kand.tekhn. nauk

Testing the strength of welded joints of rolled semifinished assembly pieces. Mont. i spets. rab. v stroi. 23 no. 1:14-16 Ja '61. (MIRA 14:1)

(Tanks)

AKULOV, I.A., kand. tekhn.nauk,dots.; ALEKSEYEV, Ye.K., inzh.; GURARI, M.D., inzh.[deceased]; DMITRIYEV, I.S., kand.tekhn.nauk,dots.; YEVSEYEV, K.Ye., inzh.; ZIL'BERBERG, A.L., inzh.; LIVSHITS, L.S., kand.tekhn.nauk; MEL'NIK, V.I., inzh.; RAZUMOVA, E.D., inzh.; TARAN, V.D., prof., doktor tekhn.nauk; FAL'KEVICH, A.S., kand.tekhn. nauk; TSEGEL'SKIY, V.L., inzh.; CHERNYAK, V.S., inzh.; SHILOVTSEV, D.P., inzh.; ZVEGINTSEVA, K.V., inzh., nauchnyy red.; TYURIN, V.F., inzh.,nauchnyy red.; VOLNYANSKIY,A.K.,glav.red.; SOKOLOV,D.V.,zam. glav.red.; SEREBRENNIKOV,S.S., red.; MIKHAYLOV,K.A.,red. STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya.,red.; LYTKINA,L.S.,red.izd-va; PEREVALYUK,N.V.,red. izd-va; RUDAKOVA, N.I., tekhn. red.

[Welding operations in building]Svarochnye raboty v stroitel'stve. Moskva,Gosstroiizdat,1962. 783 p. (MIRA 15:6)
(Welding—Handbooks, manuals, etc.) (Building)

TARAN, V.D., doktor tekhn.nauk,prof.; KALACHEV, Yu.A., inzh.

Cutting of stainless steel with standard cutters. Svar.proizv. no.1: 34-35 Ja '62. (MIRA 15:3)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti (for Taran). 2. NIIPTIAMASH Chelyabinskogo sovnarkhoza (for Kalachev).

(Steel,Stainless)(Gas welding and cutting)

TARAN, V.D.; SKUGOROVA, L.P.

Bits having cones made from quick-cutting steel. Izv. vys. ucheb. zav.; neft' i gaz 6 no.4:105-110 '63.
(MIRA 16:7)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

(Oil well drilling--Equipment and supplies)

TARAN, Vladimir Bionidovich, doktor tekhn. nauk, prof.; SVYATITSKAYA, K.P., vedushchiy red.

[Constructing main pipelines] Sooruzhenie magistral'nykh truboprovodov. Moskva, Nedra, 1964. 544 p. (MIRA 17:8)

TARAN, V.D.; SUVOROV, A.F.

Heating pipe seams by magnet controlled arc discharge for extrusion welding. Izv. vys. ucheb. zav.; neft' i gaz 7 no.10:113-116 '64. (MIRA 18:2)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I.M. Gubkina.

TARAN, V.D.; ANIKIN, Ye.A.

Ways to decrease stresses in case of symmetrical hoisting of a pipeline. Izv. vys. ucheb. zav.; neft' i gaz 7 no.11:83-88 '64. (MIRA 18:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I.M. Gubkina.

TARAN, V.D., doktor tekhn.nauk; GAGEN, Yu.G., inzh.

Forces affecting the arc in a magnetic field. Svar.proizv. no.5:3-4 My '65. (MIRA 18:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. I.M.Gubkina.

TARAN, V.D.; GAGEN, Yu.G.

Heating petroleum-pipe ends with a shifting arc for pressure welding. Mash. i neft. obor. no.5:36-38 '65.

(MIRA 18:6)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. I.M.Gubkina.

TARAN, V.D.; SLEPUKHA, V.T.

Investigation of the possibility of diffusion welding of pains.
Stroi. truboprov. 10 no.9:11-14 S '65. (MIRA 18:9)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. akad. Gubkina (for Taran).
2. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya (for Slepukha).

EWP(k)/

a L 10291-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(b)/EWA(c) JD/HM

ACC NR: AT5028828 SOURCE CODE: UR/2982/65/000/054/0168/0174

AUTHORS: Taran, V. D.; Suvorov, A. F.

ORG: Moscow Institute of Petrochemical and Gas Industry (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti)

TITLE: Electric arc heating of pipe joints for compression welding on the pipe line site

SOURCE: Moscow. Institut neftekhimicheskoy i gazovoy promyshlennosti. Trudy, no. 54. 1965. Oborudovaniye neftegazovoy i neftekhimicheskoy promyshlennosti (Equipment of the Petroleum-gas and petroleum-chemical industry), 168-174

TOPIC TAGS: welding, butt welding, arc welding, welder, pressure welding, induction welding

ABSTRACT: A device for electric arc heating of pipe joints for compression welding in the field, as developed by the Kafedra sooruzheniya gazonefteprovodov i khranilishch v MINKh i GP (Department of Construction of Gas-Oil-Pipelines and Storage Facilities in MINKh and GP) is described (see Fig. 1). The operation of

Card 1/3

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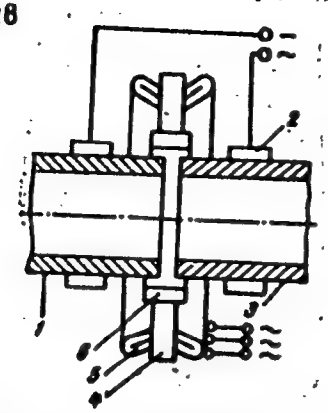

Fig. 1. Schematic of the device for welding of pipes by a rotating arc, displaced by a traveling magnetic field. 1 and 3 - pipe; 2 - welding-jolt-ramming mechanism; 4 - core; 5 - inductor windings; 6 - ring of heat-resistant material for protection of inductor.

the device is based on the phase resonance between the arc-plasma particles and a traveling electromagnetic wave, as described by D. A. Frank-Kamenetskiy (Plazma-chetvertoye sostoyaniye veshchestva. Gosatomizdat, 1963). The characteristics of the arc and current sources, the heating of pipe edges, and energy consumption were investigated. The experimental results are presented graphically on Fig. 2. It is concluded that heating of pipes and similar objects is possible with current sources with proper characteristics, that the arc supply voltage must exceed the

Card 2/3

L 10291-66

ACC NR: AT5028828

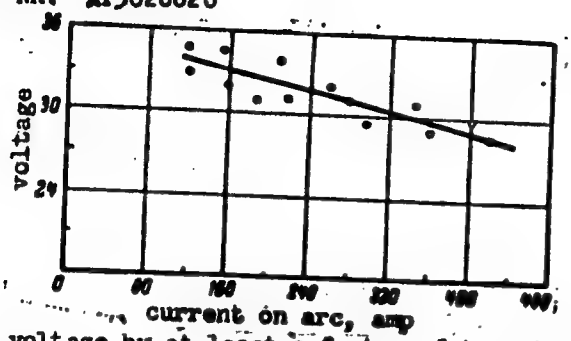

Fig. 2. Static characteristic of the arc rotated by a travelling magnetic field.

arc voltage by at least a factor of two, that the dynamic properties of the arc supply must be higher than those used in arc welding equipment, and that the magnetic arc control requires d-c or a-c supplies of relatively low capacity. Orig. art. has: 4 graphs.

SUB CODE: 13/ SUBM DATE: none/ ORIG REF: 002

Card 3/3

L 28867-66 EWP(k)/EWT(m)/T/EWP(v)/EWP(t)/ETI JD/HM

ACC NR: AP6011535 SOURCE CODE: UR/0135/66/000/004/0013/0015

AUTHOR: Slepukha, V. T. (Engineer); Taran, V. D. (Doctor of technical sciences) 44 B

ORG: [Slepukha] NIITRAKTOROSEL'KHOZMASh; [Taran] MINKhiGP im. I. M. Gubkin

TITLE: Certain features of CO_2- and nitrogen-shielded diffusion welding 14

SOURCE: Svarochnoye proizvodstvo, no. 4, 1966, 13-15

TOPIC TAGS: acid Bessemer steel, diffusion welding, carbon dioxide, nitrogen, welding technology / St. 3 acid Bessemer steel

ABSTRACT: It is shown that diffusion welding can also be accomplished in the absence of a vacuum provided that the surface remains protected against oxidation. Thus, specimens of St. 3 acid Bessemer steel were welded in CO_2 and N_2 atmospheres following the prior mechanical cleaning of their surface in these gases (welding current 1030-1050°C, welding pressure 2.5 kg/mm^2). The results proved highly successful compared with prior surface cleaning in normal air as in the latter case the thin oxide film forming within 15 min prior to the commencement of welding inhibits the diffusion of C in the contact zone and this prevents the formation of common grains in that zone. Thus, it is feasible to replace cumbrous and inefficient vacuum diffusion welding with CO_2- and N_2- shielded diffusion welding, on condition that

Card 1/2 UDC: 621.791.4:539.378.3:621.315.618

L 28867-66

ACC NR: AP6011535

0

the surfaces to be welded are first cleaned in these gases as well. Orig. art. has: 3 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 004

Card 2/2 CC

L 38485-66 EWT(m)/T/EWP(v)/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/HW

ACC NR: AP6019427 (N) SOURCE CODE: UR/0135/66/000/006/0011/0014

AUTHOR: Taran, V. D. (Doctor of technical sciences); Gagen, Yu. G. (Engineer) 31 B

ORG: [Taran] Moscow Institute for the Petrochemical and Gas Industry im. I. M. Gubkin (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti); Ivano-Frankovsk Branch of the Lvov Polytechnic Institute (Ivano-Frankovskiy filial L'vovskogo politekhnicheskogo instituta) [Gagen]

TITLE: Arc heating of the edges of steel tubes

SOURCE: Svarochnoye proizvodstvo, no. 6, 1966, 11-14

TOPIC TAGS: arc welding, temperature distribution, METAL TUBE

ABSTRACT: The article examines the process of the distribution of heat in the body of a tube during the motion of the arc in the annular gap between the tubes. The dependence obtained for the distribution of heat permits determining the parameters of the heating process to guarantee practically uniform heating of the edges. The article also proposes a method for calculation of the temperature field by the use of nomographs. At an initial moment of time t = 0, the sources, with respect to a fixed system of coordinates, X_0Y_0, are at the points

$X_k^0 = 2k \cdot R;\ Y_k^0 = 0,$ где $k = 0; \pm 1; \pm 2; \pm 3 \ldots$

Card 1/2 UDC: 621.791.75.01:62-462

L 38485-66

ACC NR: AP6019427

The instantaneous position of a given source at a moment of time, in this system, is expressed: $X_0=2kaR+ct$; $Y_0=0$. The process of propagation of an element of heat $qd\tau/S$, related to a given linear source at the moment of time τ, referred to a fixed system of coordinates, without heat transfer, is expressed by the formula

$$dT(X_0, Y_0, t-\tau)=\frac{qd\tau}{8c\gamma\sqrt{\pi a(t-\tau)}}\exp\left[-\frac{r_0^2}{4a(t-\tau)}\right], \quad (1)$$

where $r_0^2=(X_0-X_0)^2+Y_0^2$ is the square of the instantaneous radius vector. The article continues with a mathematical development of the problem on this basis. Results of the calculations are developed in a series of nomographs. Orig. art. has: 16 formulas and 6 figures.

SUB CODE: 13,20/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 002

Card 2/2 pb

L 11315-67 EWP(c)/EWP(k)/EWT(d)/EWT(m)/EWP(l)/EWP(v)/EWP(t)/ETI IJP(c) JD/HM
ACC NR: AR6022166 SOURCE CODE: UR/0137/66/000/003/E073/E073

AUTHOR: Taran, V. D.; Belets, L. G.

TITLE: New equipment for quality control of welded seams by gamma radiography

SOURCE: Ref. zh. Metallurgiya, Abs. 3E528

REF SOURCE: Novoye v tekhnol. svarki stroit. konstruktsiy. M., 1965, 100-104

TOPIC TAGS: welding inspection, gamma ray, quality control, radioactive source, radiography

ABSTRACT: Mechanized containers in the NILS-3 and NILS-5 units prevent the radiograph from entering the danger zone during removal and replacement of the ampule containing the radioactive source. The NILS-5 is a portable gamma-ray source with a remote control panel. A special shielding material is used in place of lead to reduce the overall dimensions and weight of the container. The remote panel is connected to the spherical container by a 20-25 m cable so that the operator may work at a safe distance from the ampule. M. Frolova. [Translation of abstract]

SUB CODE: 13,18

nondestructive testing

Card 1/1 bab UDC: 621.791.004.2/002.54

ACC NR: AP6036015 SOURCE CODE: UR/0125/66/000/010/0010/0014

AUTHORS: Taran, V. D.; Gagen, Yu. G.

ORG: [Taran] Moscow Institute of the Petrochemical and Gas Industry im. I. M. Gubkin (Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti); [Gagen] Lvov Polytechnic Institute, Ivano-Frankov Branch (Ivano-Frankovskiy filial L'vovskogo politekhnicheskogo instituta)

TITLE: A study of the motion of an arc in a magnetic field

SOURCE: Avtomaticheskaya svarka, no. 10, 1966, 10-14

TOPIC TAGS: arc welding, pipe, nonhomogeneous magnetic field, electric arc, steel

ABSTRACT: The effect of the radial and longitudinal components of a magnetic field on the motion of an electric arc burning between the edges of steel pipes is studied. Pipes with a diameter of 89 mm and a thickness of 7 mm were used. Observations showed that the motion of an arc can be divided into four periods: accelerated motion with a relatively low velocity along the inner edges of the ends of the pipes; slow, unstable motion; stable accelerated motion; motion with regular acceleration over the surface of the fused ends. Measurements showed that the radial component of the magnetic field varied sharply within the limits of the wall thickness (see Fig. 1). The longitudinal component of the field did not have a direct effect on the tangential motion of the arc. The magnetic field in the gap between the edges of

Card 1/2 UDC: 621.791.7:538.122:537.529

steel pipes was found to be heterogeneous. To avoid metal ejection in the final stage of heating, the emf of the coils must be increased.

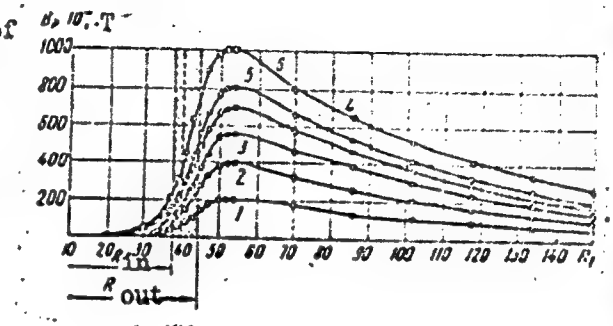

Fig. 1. Distribution of radial component of magnetic field along radius for a gap of δ_2 = 14 mm: 1 - Iw = 3200 A-t; 2 - Iw = 6400 A-t; 3 - Iw = 9600 A-t; 4 - Iw = 12800 A-t; 5 - Iw = 16000 A-t; 6 - Iw = 26000 A-t

Orig. art. has: 6 graphs and 2 diagrams.

SUB CODE: 13/ SUBM DATE: 01Feb66/ ORIG REF: 005

KRYLOV, V.A.; SIMACHEV, L.V.; GURVITS, A.I., inzh., nauchnyy red.; VOLNYANSKIY, A.K., glavnyy red.; SOKOLOV, D.V., zam.glavnogo red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; GORDEYEV, P.A., red.izd-va; UDOD, V.Ya., red.izd-va; KL'KINA, E.M., tekhn.red.

[Reference book on special work; mechanical assembly work in industrial construction] Spravochnik po spetsial'nym rabotam; mekhanomontazhnye raboty v promyshlennom stroitel'stve. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 498 p. (MIRA 14:4)

(Machine-shop practice)

ALDATOV, T.N.; ANATOL'YEVSKIY, P.A.; ANOKHINA, K.T.; ORECHKIN, P.M.; PLOKHOV, V.I.; YAKOVLEV, A.I.; VOLNYANSKIY, A.K., glavnyy red.; PLOTNIKOV, N.A., prof., doktor tekhn.nauk, zasluzhennyy deyatel' nauk RSFSR, red.; KAZ'MIN-BALASHOV, A.I., inzh., nauchnyy red.; SOKOLOV, D.V., red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; SHERSHUKOVA, M.A., red.izd-va; TEMKINA, Ye.L., tekhn.red.

[Manual for specialized work; design and construction of water-supply wells] Spravochnik po spetsial'nym rabotam; proektirovanie i sooruzhenie skvazhin dlia vodosnabzheniia. Pod obshchei red. N.A.Plotnikova. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 235 p. (MIRA 14:6)

1. Gosudarstvennyy institut po proyektirovaniyu spetsial'nykh sooruzheniy promyshlennogo stroitel'stva.
(Wells)

ALEKSEYEV, A.G.; BAYUSHKIN, S.N.; MARKELOV, V.V.; NEBESNYY, A.D.; SOKOLOV, D.V., inzh., red.; VOLNYANSKIY, A.K., glav. red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; CHEKHOVSKAYA, T.P., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Concise manual on electric wiring operations] Kratkii spravochnik proizvoditelia elektromontazhnykh rabot. Pod red. D.V.Sokolova. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 311 p. (MIRA 14:10)

1. Moscow. Gosudarstvennyy proyektnyy institut Tyazhpromelektroproyekt.

(Electric wiring--Handbooks, manuals, etc.)

KAMENETSKIY, S.P.; UTKIN, V.V.; ZOTOV, A.V., nauchnyy red.; VOLNYANSKIY, A.G., glav. red.; SOKOLOV, D.V., zam. glav. red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; SHIROKOVA, G.M., red. izd-va; NAUMOVA, G.D., tekhn. red.

[Heat insulation work] Teploizoliatsionnye raboty. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 439 p. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut "Teploproyekt". (Insulation (Heat))

STAROVEROV, I.G., inzh., red.; PISKORSKIY, B.N., red. spravochnika; VOLNYAN-SKIY, A.K., glav. red.; SOKOLOV, D.V., zam. glav. red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; VOLODIN, V.Ye., red. NIKOLAYEVSKIY, Ye.Ya., red.; NINEMYAGI, D.K., red. izd-va; OSENKO, L.M., tekhn. red.

[Assembly of ventilation systems] Montazh ventiliatsionnykh sistem. Pod obshchei red. I.G.Staroverova. Moskva, Gos. izd-vo lit-ry po stroit. i stroit. materialam, 1961. 430 p. (MIRA 14:10)

1. Moscow. Gosudarstvennyy proyektnyy institut Santekhproyekt. (Ventilation)

VAYNTRAUB, I.M., inzh.; GOBZA, R.N., inzh.; KATSNEL'SON, G.A., inzh.; KRASILOV, G.I., inzh.; ORENTLIKHER, P.B., inzh.; ERLIKHMAN, S.Ya., inzh.; VOLNYANSKIY, A.K., glav. red.; SOKOLOV, D.V., zam. glav.red.; TARAN, V.D., red.; SEREBRENNIKOV, S.N., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; SMIRNOV, L.I., inzh., nauchnyy red.; SKVORTSOVA, I.P., red. izd-va; SHERSTNEVA, N.V., tekhn. red.

[Adjusting, control, and operation of industrial ventilation systems]Naladka, regulirovka i ekspluatatsiia sistem promyshlennoi ventiliatsii. Pod red. S.IA.Erlikhmana. Moskva, Gosstroiizdat, 1962. 555 p. (MIRA 15:9)

1. Russia (1917- R.S.F.S.R.)Glavnoye upravleniye sanitarno-tekhnicheskogo montazha.
(Factories--Heating and ventilation)

KAPLAN, Ya.I.; OBUKHOV, A.I.; PILEVSKIY, M.V.; SHNITMAN, I.L.; VYSHESLAVTSEV, S.I., nauchnyy red.; VOLNYANSKIY, A.K., glav. red.; SOKOLOV, D.V., zam. glav. red.; TARAN, V.D., red.; SEREBRYANNIKOV, I.G., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.; SHIROKOVA, G.M., red. izd-va; GOL'BERG, T.M., tekhn. red.

[Assembly of elevators] Montazh liftov. Moskva, Gosstroizdat, 1962. 227 p. (MIRA 15:7)

(Elevators)

TARAN, V.D.; AMIRIN, Ye.A.

Calculating the basic parameters of pipe-laying and insulation operations carried out by a building crew. Izv. vys. ucheb. zav.; neft' i gaz 7 no.8:93-97 '64.

(MIRA 17:10)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti imeni akademika Gubkina.

VESELOV, A.A., inzh.; KARNEYEV, N.A., inzh.; KOZLOVSKIY, L.I., inzh.; STEPANOV, A.I., inzh.; TUSHNYAKOV, M.D., inzh.; SHCHEPET'YEV, A.I., inzh.; VOLNYANSKIY, A.K., glav. red.; SUDAKOV, G.G., zam. glav. red.; TARAN, V.D., red.; SEREBRENNIKOV, S.S., red.; MIKHAYLOV, K.A., red.; STAROVEROV, I.G., red.; VOLODIN, V.Ye., red.; NIKOLAYEVSKIY, Ye.Ya., red.

[Hoisting and conveying equipment for assembly and specialized operations] Pod"emno-transportnoe oborudovanie dlia montazhnykh i spetsial'nykh rabot. Izd.2., dop. Moskva, Stroiizdat, 1964. 679 p. (MIRA 18:4)

29373
S/169/61/000/006/038/039
A005/A130

9,9100

AUTHOR: Taran, V.I.

TITLE: Measurement of the drift in the ionosphere with simultaneous investigation of the polarization state

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1961, 30-31, abstract 6G245. (V sb.: Issled. neodnorodnostey v ionosfere. No. 4. Moscow, AN SSSR, 1960, 83-91 (English summary))

TEXT: The author presents preliminary results of processing measurements of the velocities and directions of drift in the E- and F-regions of the ionosphere carried out in Khar'kov in 1959. The recording of signals reflected from the ionosphere was performed by spaced antennae with simultaneous analysis of the state of polarization of the radiowaves received. In autumn months drift in the E-region proceeds chiefly northeastwards; in winter it proceeds northwards and southwards. The data on drift in the F-region of the ionosphere were obtained at frequencies considerably lower than f_0F2. Therefore, the observation results were strong-

Card 1/2

Measurement of the drift in the ionosphere ...

ly affected by inhomogeneities in the E-layer. Consequently, the values of drift obtained for the E- and F-regions are similar. The drift velocities vary within the limits 40-100 m/sec. A signal reflected from the ionosphere is mainly elliptically polarized. The ratio of the axes of th. polarization ellipses of the ordinary component varies within the limits 0.0-0.6. The major axes of the magnetic ellipses of the ordinary compon... are oriented in the north-west quadrant, those of the unordinary componen. in the north-east quadrant. The polarization-ellipse parameters depend mainly on the state of the atmosphere. If the atmosphere is disturbed, the angle of inclination of the main axes varies, and the ratio of axes of the polarization ellipses becomes lower.

Author's summary

[Abstractor's note: Complete translation.]

Card 2/2

KASHCHEYEV, B.L.; TARAN, V.I.

Measuring the velocity and direction of wind at altitudes of 100 - 125 kilometers. Dop.AN URSR no.10:1400-1402 '60. (MIRA 13:11)

1. Khar'kovskiy politekhnicheskiy institut im. V.I.Lenina. Predstavleno akademikom AN USSR V.G.Bondarchukom [Bondarchuk, V.H.].
(Winds)

TARAN, V. I., Cand Tech Sci -- "Study of the maximum polarization of radio waves reflected from the ionosphere." Tomsk, 1961. (Min of Higher and Sec Spec Ed RSFSR. Tomsk Order of Labor Red Banner Polytech Inst im S. M. Kirov) (KL, 8-61, 250)

30153
S/021/000/003/001/002
A/B112

9.9110

AUTHOR: Tara[illegible] V.I.; Zhebko, T.K.

TITLE: The measurement of velocities of the drift of heterogeneities in the E and F zones of the ionosphere in accordance with the International Geophysical Year program

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Organizatsiynyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. Mezhdunarodnyy geofizicheskiy god; informatsionnyy byulleten', no. 3. [illegible] 13-18

TEXT: The present paper covers the results of experimental investigations of the velocities and directions of the drift of heterogeneities in the E and F zones of the ionosphere. These investigations were carried out, in accordance with the program of the International Geophysical Year, in [illegible] in'kov and cover the period from Aug 24, 1957 to Nov, [illegible]. The measurements were conducted according to a graphical method proposed in Ref. 1 (Ref. 1: Instruction Manual, No V, The Ionosphere, vol. III. The measurement of ionospheric drifts. 1956). V.I. Bokhchayev (Ref. 3: Izv. vyssh. ucheb. zaved. iy, seriya radio-

Card 1/

30153
S/669/61/00...
5049/E...

The measurement of velocities ...

... nicheskaya, No 1, 1958) had previously found that in the ... region the ionized gas moves at the velocity of the ... region, the velocity of a homogeneous ionized mass differed ... wind velocity. In the present study of the velocity of the ... heterogeneities, provision was made for the recording of amplitudes of radio waves reflected from the ionosphere at three points on the earth's surface; the distance between each point was of the order of one wavelength. An ... spheric-station transmitter, developed by the Khar'kovskiy ... institut (Khar'kov Polytechnic Institute) and mentioned ... UkrSSR, ... and B.S. Bondar' (Ref. 4. Inform. ...) ... was used in these investigations. The reflected ... at three spots located 144 m from one another. The ... were placed on open land. Tuned single-loop rectangular ... were used as receiving antennas on the 2.2±Mc band. ... Mc band. A receiver fitted with an electronic ... described in Ref. 4, as well as a ring scaler operating on vacuum ... binary cells, were also used. The ring scaler was described ...

Card ...

30153
S/609/61/000/003/001/008
D039/D112

The measurement of velocities ...

... M.A. Bonch-Bruyevich (Ref. 5: Primeneniye elektronnykh lamp v eksperimental'noy fizike [The application of electronic tubes in experimental physics], GITTL, 1954, str. 503). Up to June 1958, the drift in the F region was measured at night, and from June on - at day time. It was found that for the E region the predominant velocity of the drift of heterogeneities was 50-60 m/sec and for the F region - 50-60 and 80-90 m/sec. During the period under study, the direction of the drift of heterogeneities in the E region was chiefly southerly and easterly. From Aug 1957 to Nov 1958, the drift in the F zone was southerly and easterly, and from Sept to Nov 1958, mainly easterly. Over the whole period of measurements the direction of the drifts in the E and F zones coincided to a certain degree. The following conclusions were drawn from the results: (1) the difficulties of determining the true height of the drifts make it difficult to find the main directions of the drifts and their diurnal and seasonal variations; (2) very high solar activity often caused abnormal phenomena in the ionosphere which considerably complicated the analysis of processes taking place there; (3) the high gradient of the velocity and direction of the drift according to height,

Card 3/4

The measurement of velocities ...

can lead to a sharp change of the velocity and direction of the drift even upon a small change of the effective height; (4) the predominant velocity of the drift for the E region was found to be about 50-60 m/sec and that for the F region - about 50-60 and 60-90 m/sec. In the F region the drift was south-westerly and easterly, and in the E region - southerly and easterly. Both authors express their acknowledgement to B.L. Kashcheyev for the supervision of this research work. There are 12 figures and 3 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The two references to English-language publications read as follows: Instruction Manual, No V, [illegible] Jones Beach, N.Y., III, The measurement of ionospheric drifts, 1956; I.L. J[illegible]s, B. [illegible] a. C.B.H. Setty, Movements of ionospheric irregularities observed simultaneously by different methods, J. of Atmosph. Terr. Phys., vol. 13, 19[illegible]

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnical Institute).

Card 4/4

31043
S/609/61/000/004/002/007
D207/D304

9,9100

AUTHOR: Taran, V. I.

TITLE: Investigating the polarization of radiowaves reflected by the ionosphere and measuring the drift of ionization inhomogeneities

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Organizatsionnyy komitet po provendeniyu Mezhdunarodnogo geofizicheskogo goda. Mezhdunarodnyy geofizicheskiy god; informatsionnyy byulleten'. no. 4, 1961, 24-28

4

TEXT: The author describes a radiopolarimeter, coupled with a suppression system, developed by the Khar'kovskiy politekhnicheskiy institut, Kafedra osnov radiotekhniki (Khar'kov Polytechnic Institute, Department of Fundamentals of Radio Engineering). It was used to measure polarization and distribution of magneto-ionic components in radio pulses reflected from the ionosphere. The reflected signal was picked up by two loop antennas oriented along north-south and east-west directions. The received signal was

Investigating the polarization ...

amplified by a two-channel receiver with a common heterodyne stage, and applied to the two pairs of mutually perpendicular deflecting plates of a c.r.o. of 13Л036 (13L036) type. The c.r.o. screen showed the polarization ellipse, whose parameters were determined by the ratio of amplitudes and phases of the two components of the signal coming from the two antennas. A two-channel range indicator with coarse (150, 300, 450 km) and fine (20, 50, 100 km) scans was used to select the reflected signals; this range indicator was based on a c.r.o. of 13Л048 (13L048) type. The range indicator improved the resolving power of the apparatus in respect of distance and the use of 8 μsec gating of oscillographs made it possible to study in great detail the state of polarization and the distribution of magneto-ionic components in the reflected pulses. To identify the magneto-ionic component (ordinary or extraordinary), one of the receiver channels was detuned. Then the polarization ellipse of the ordinary component rotated clockwise and the extraordinary ellipse - anticlockwise. A second, monitoring receiver was used to select the working frequency and reflected pulses during polarization measurements with the two-channel

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Investigating the polarization ...

receiver. Magneto-ionic components were suppressed by adding the output voltages of the two receiver channels, shifted by 90 or 270° in phase and equalized in amplitude. The resultant voltage was applied to the vertical deflecting plates of a c.r.o. with 600 km scan and recorded on a moving film. The apparatus had an electronically stabilized power supply. The radio signals were obtained from a transmitter with a delta antenna, whose plane was oriented along the north-easterly direction. Using the 2-5 Mc/s frequencies it was found that the principal axes of the ordinary ellipse were in the north-easterly direction and those of the extraordinary ellipse were in the north-westerly direction. The ratio of the axes of the polarization ellipses varied between 0.4 and 0.8. When both magneto-ionic components were present in a reflected pulse the polarization ellipse rotated and approached linear shape. Suppression of either of the magneto-ionic components was stable under normal ionospheric conditions for about 1 min. In daytime only the ordinary component was observed at working frequencies of up to 2.9 Mc/s. The following conclusions were drawn from the results: (1) Reliable measurement (when only one magneto-

4

ionic component is present) of the E-region drift is possible in daytime at frequencies from 2 to 2.9 Mc/s; (2) the receiver antennas should be aligned along north-south in studies of drift using the ordinary and the extraordinary magneto-ionic components. Acknowledgment is made to the Head of the Department of Fundamentals of Radio Engineering Docent B. L. Kashcheyev, who directed this word. There are 2 figures and 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: Instruction Manual no. V, The Ionosphere, vol. III, London (1956); M. G. Morgan and W. C. Johnson, The Physics of the Ionosphere, 74-77, London, 1955 (Report of the Physical Society Conderence on the Physics of the Ionosphere held at the Cavendish Laboratory, Cambridge, September 1954).

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut (Khar'kov Polytechnic Institute)

S/194/62/000/008/068/100
D271/D308

AUTHORS: Taran, V.I., and Kashcheyev, B.L.

TITLE: Investigation of limit polarization of radio waves reflected from the ionosphere, at frequencies of 2 - 6 Mc/s

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, abstract 8Zh199 (In collection: Ionosfern. issledovaniya, no. 9, M., SSSR, 1961, 47-53 [summary in Eng.])

TEXT: The authors describe the apparatus and methods used in the study of the limit polarization of radio waves reflected from the ionosphere. Results of measurements performed at Khar'kov Polytechnical Institute in 1959 are given. [Abstracter's note: Complete translation.]

Card 1/1

KASHCHEYEV, B.L.; TARAN, V.I.

Measurements of drifts of ionization homogeneities in the atmospheric E-layer with simultaneous determination of the polarization of reflected radiowaves. Meteory; sbor. st. no. 2/? 37-42 '63. (MIRA 17:5)

L 45287-66 EWT(1)/FCC GW

ACC NR: AT6023728 SOURCE CODE: UR/2831/65/000/014/0071/0076

AUTHOR: Grigorenko, Ye. I.; Taran, V. I.

30
B+1

ORG: none

TITLE: Measurements of drift in ionospheric E region above Kharkov

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. V razdel programmy MGG: Ionosfera. Sbornik statey, no. 14, 1965. Ionosfernyye issledovaniya, 71-76

TOPIC TAGS: ionosphere, ionosphere drift, drift measurement

ABSTRACT: The author discusses results of drift measurements obtained in 1962 in the E region of the ionosphere and compares them with experimental data obtained in the period August 1959—July 1960. Measurements in the E region were made in the frequency range of 2—3 Mc. In 1962, the probable speeds of drifting of irregularities considerably exceed the speeds obtained in 1959—1960. In winter, the speeds are 100—120 m/sec, in spring and autumn, 60—80 m/sec, and in summer 80—100 m/sec. In 1959—60, the drift observed was primarily in the NE direction. In winter and spring of 1962, the major drift was toward the SE, in

Card 1/2

L 45287-66

ACC NR: AT6023728 O

summer to the E, in autumn to the S and SW. A harmonic analysis is made of the results of measurements. Data are also given on the polarization influence of the arriving wave on the drift measurements obtained with simultaneous observations. The authors recommend exclusion of the influence of polarization fade-outs on the drift measurements. Orig. art. has: 3 figures. [Based on Authors' abstract.] [GC]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 003/

Card 2/2

TAHAN, N.G., kand. tekhn. nauk [illegible]; [illegible]

Recovery of oxygen from hydrogen by means of [illegible]
generator. Mekh. prom. no.3[illegible] 165. [illegible]

1. Odesskiy tekhnologicheskiy institut pishchevoy i kholodil'noy promyshlennosti.

TARAN, V.P., inzh.-elektrik

Using VSS-300 straighteners in welding. Mekh. sil'. hosp. 12 no. 6:24-26 Je '61. (MIRA 14:5)
(Electric welding)

TARAN, V.P., inzh.

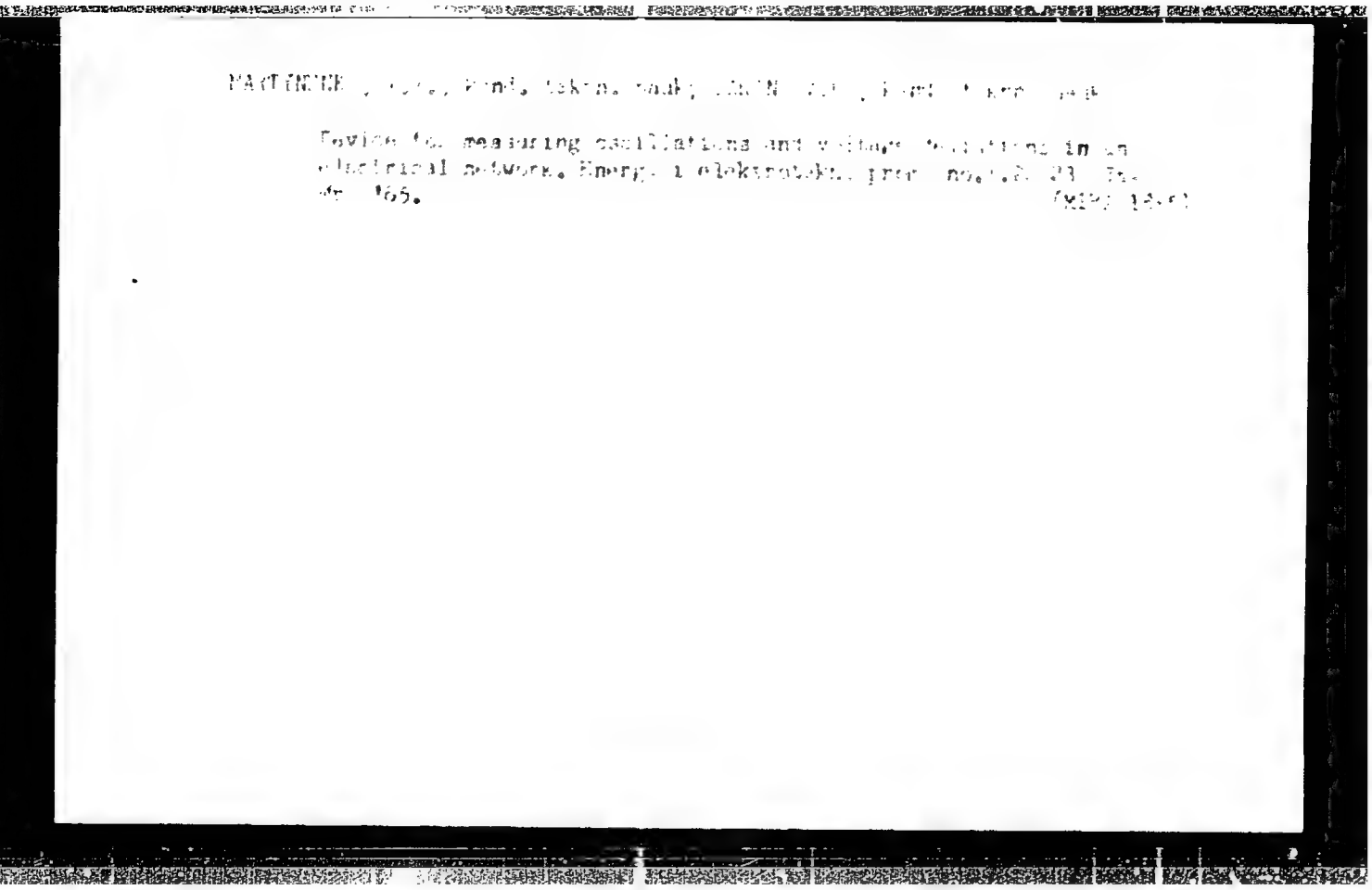
Calculating voltage frops caused by welding rectfiers. Mekh.i elek.sots.sel'khoz. 19 no.5:56-57 '61. (MIRA 14:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(Electric welding)

TARAN, V.P., inzh.

Welded rectifiers for charging storage batteries. Mekh. sil'. khoz. 14 no.10:28-29 O '63. (MIRA 17:2)

1. Ukrainskiy filial Gosudarstvennogo vsesoyuznogo nauchno-issledovatel'skogo tekhnologicheskogo instituta remonta i ekspluatatsii mashinno-traktornogo parka.



TARAN, Ya.Ya.

Mechanization of stock-caving in coal bunkers. Stal' 15 no.1:7-10 Ja '55. (MLRA 8:5)

1. Dneprodzerzhinskiy koksokhimicheskiy zavod.
(Coal-handling machinery) (Coke industry)

DRAGICHESKU, P. [Draghicescu, P.]; DRAGICHESKU, M. [Draghicescu, M.]; LUSHIKOV, V.I.; NEGANOV, B.S.; PARFENOV, L.B.; TARAN, Yu.B.

[Dynamic polarization of protons in lanthanum-magnesium nitrate crystals containing neodymium] Dinamicheskaia poliarizatsiia protonov v kristalle lantan-magnievogo nitrata s primes'iu neodima. Dubna, Ob"edinennyi in-t iadernykh issl. 1964. 16 p. (MIRA 17:5)

TARAN, Yu. M.

USSR/Solid State Physics - Phase Transformation in Solid Bodies E-5

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 983

Author : Taran, Yu.M., Chornovol. A.V.
Inst :
Title : Concerning the Kinetics of the Graphitization of White Magnesium Cast Irons.

Orig Pub : Dopovidi AN URSR, 1957, No 3, 251-255

Abstract : No abstract.

Card 1/1

9(2), 18(5) SOV/125-59-9-14/16

AUTHOR: Taran, Yu.F., Engineer

TITLE: Ultrasonic Detector for Continuous Checking Weld Quality in Welded Constructions

PERIODICAL: Avtomaticheskaya svarka, 1959, Nr 9, p 96 (USSR)

ABSTRACT: The Institute of Electric Welding imeni Ye.O.Paton AS UkrSSR designed a detector for checking welded seams on tubes 83 cm in diameter. This detector discloses defects of welding, such as cracks, lacks of penetration, inclusions etc., that have an area of over 1 mm^2. The speed of checking, including all the preliminary operations is 120 m/hour. On the whole, the outfit consists of the following components: Two-channel ultrasonic detector operating on a single-feeler principle; finding head with a water cup; device for marking of defects on tube walls; attachment for the tape recording defectograms; power supply; control station; and a self-propelled chassis. By changing the finding head construction, it is possible to check different types of welds from 5 to 40 mm in width.

Card 1/2

SOV/125-59-9-14/16

Continuous
Ultrasonic Detector for Checking Weld Quality in Welded Constructions

The process of checking consists of following operations: The self-propelled chassis with detector, finding head and recorder travel on a rail-track along the weld to be checked. The ultrasonic oscillations are introduced by a piezo-transformer through the water cup into the weld. Signals that detect welding defects are adequately transformed and registered on the perforated paper tape.

Card 2/2

S/021/61/000/007/007/011
D205/D306

AUTHORS: Chornovol, A.V., Taran, Yu.M., and Panchina, T.O.

TITLE: Influence of calcium on the shape of graphite inclusions in Fe - C - Si alloys

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR, Dopovidi, no. 7, 1961, 911 - 914

TEXT: After discussing the effects of modifiers on the properties of cast iron, the authors express the opinion that the most active are the alkaline earth metals, Zn and Cd, belonging to the odd series of the same group have no effect on the formation of spheroidal graphite inclusions, the presence of which greatly affects the quality of cast iron. Previously, best results were obtained with a mixture of calcium and magnesium, as modifiers, but they were tested on pig-iron only. The subject of their experiments was the study of the modifying effect of Ca on relatively pure Fe-C-Si. alloys. They were obtained by remelting 150 gr. of cast iron with

Card 1/4

crystalline silicon (99.85 %) in a graphite crucible in a Tamman oven. The alloy was modified with metallic Ca (2.5 and 5 %) at 1560°C. The solidification and cooling of samples was carried out in crucibles together with the oven in open air. The cooling curves were obtained by means of a platinum platinum-rhodium thermocouple connected to a recording potentiometer. Samples were cut through the vertical axis and the whole cross-section was microscopically examined, the calcium content in different parts of samples being determined by spectral analysis. The cooling curves [Abstractor's note: Not given] prove that temperatures at the beginning of eutectic crystallization in both unmodified and modified samples are almost identical and that solidification in both cases takes place at the same degree of supercooling. The structure of graphite inclusions is shown on photographs. It is seen that the graphite inclusions change shape from the surface layer to the inner part of samples: near the surface the amount of spheroidal inclusions is the largest; they are covered with films of austenite and are accompanied by clusters of fine laminated "supercooled" graphite. In the intermediate zone, between the surface and the

sample center, these spherical inclusions change to starlike ones, formed by radial aggregates of pyramidal crystals, separated by a metallic matrix. In the central portion graphite forms coarsely laminated inclusions with some compact ones of irregular shape. In both alloys (that with 2.5 and that with 5 % Ca) the general picture is similar, the only difference being a greater number of spheroidal particles near the surface of the alloy modified with 5 % Ca. The results of microscopic study prove that the formation of the spherical graphite inclusions to some extent depends on the rate of cooling; but these inclusions are always accompanied by flake formations, which affect most unfavorably the mechanical properties of cast iron. Therefore calcium by itself cannot be used as modifier for improving cast iron. V.M. Khokholkov assisted in casting the samples. There are 1 table, 3 figures and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc. The two references to the English-language publications read as follows: R. Collette, A. DeSy, Foundry Trade Journal, 80, 495, 1789, 1946; H.A. Grunge, F.T. Shortsleeve, D.C. Hilty, W.O. Binder, G.T. Motock, and C.M. Offen.

Card 3/4

Influence of calcium on ... S/021/61/000/007/007/011
D205/D306

hauer; "Boron, Calcium, Columbium and Zirconium in Iron and Steel" U.S.A., 1957, 89.

ASSOCIATION: Institut litvarnoho virobnitstva AN URSR (Institute of Foundry Industry Academy of Sciences, UkrSSR) Dnepropetrovs'kyy metalurgiynyy institut (Institute of Metallurgy of Dnepropetrovsk)

SUBMITTED: November 2, 1960

PRESENTED: by V.M. Svechnikov, Member of AS UkrSSR

Card 4/4

L 4177-66 EWT(d)/EWT(m) EWP(c)/EWP(v)/T/EWP(t)/ETI/EWP(k)/EWP(l) IJP(c)

ACC NR: AP6011253 (N) SOURCE CODE: UR/0413/66/000/006/0094/0094

JD/HM

63
B

INVENTOR: Davidenko, V. F.; Kochetov, A. A.; Lashkevich, R. I.; Ponomarev, A. A.; Taran, Yu. M.

ORG: none

TITLE: Device for automatic ultrasonic quality control of welds. Class 42, No. 179979 [announced by the Electric Welding Institute im. Ye. O. Paton (Institut elektrosvarki)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 94

TOPIC TAGS: ultrasonic quality control, welding, ultrasonic inspection, ultrasonic equipment, servosystem, quality control

ABSTRACT: This Author Certificate introduces a device for ultrasonic inspection of welds containing an ultrasonic probe and a color marker. For greater productivity, the device is equipped with an optical servosystem which uses as a reference line the surface of a cylindrical amplifier with photometric properties different from

Card 1/2 UDC: 620.179.16.05

L 44177-66
ACC NR: AP6011253

those of the material welded (see Fig. 1). Orig. art. has: 1 figure. [LD]

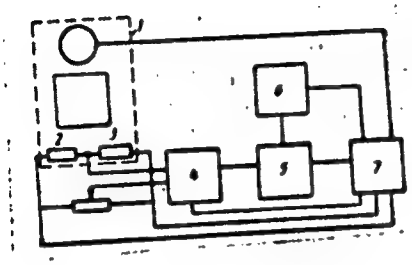


Fig. 1. Device for automatic ultrasonic inspection of welds. 1—sensor; 2 and 3—photoresistance; 4 and 5—amplifiers; 6—servomotor; 7—power source

SUB CODE: 13,10/ SUBM DATE: 13Jan64/

Card 2/2

TARAN, Yu. N.

The influence of magnesium on the form of the temper carbon inclusions. Yu. N. Taran and A. V. Chernoyol (I. V. Stalin Met. Inst., Dnepropetrovsk). *Doporidi Akad. Nauk. Ukr. R.S.R.* 1954, 381-4(Russian summary). —Microphotographs are presented for white iron tempered at 1050°, which contained 0, 0.018, 0.047, and 0.076 % Mg. It can be seen that the temper carbon (*I*) changes its shape from the branched, spiderlike forms at the lowest Mg values to equiaxial polyhedra at the higher ones. It is, therefore, suggested to use the appearance of *I* under the microscope as a replacement for the Mg analysis. Werner Jacobson

POGREBNOY, E.N., kand.tekhn.nauk; TARAN, Yu.N., kand.tekhn.nauk

Effect of hardening on the graphitization of cast iron and steel. Metalloved. i term. obr. met. no. 5:48-52 My '60. (MIRA 13:12)

1. Dnepropetrovskiy metallurgicheskiy institut.
(Cast iron--Hardening) (Steel--Hardening)

69335
S/129/60/000/05/015/023
E091/E235

18.7100

AUTHORS: Pogrebnoy, E. N., and Taran, Yu. N., Candidates of Technical Sciences

TITLE: Effect of Quenching on the Graphitization of Cast Iron and Steel

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 5, pp 48-52 (USSR)

ABSTRACT: Carbides dissolve in carbon steels and medium alloy steels at 900°C within 3 to 5 mins (Ref 6) and at above 950°C within a fraction of a minute (Fig 1, curve 3). Graphite produced by heating quenched steel also dissolves rapidly. In order that the vacancies in the matrix, formed when graphite dissolves, should heal up, lengthy soaking is required. Hence, during austenisation (1 hour at 900°C) of steel which had been quenched and tempered at 450°C (to cause formation of ε-carbide), the carbide phase and graphite nuclei dissolve completely in the austenite and any effect of the ε-carbide on subsequent graphitization of the steel must cease. If the effect of preliminary quenching does not disappear, on austenitizing it cannot be associated with the presence

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Effect of Quenching on the Graphitization of Cast Iron and Steel

of the ε-carbide and graphite nuclei. Gulyayev et al (Ref 8), Yakovleva et al (Ref 9) and Bunin et al (Refs 10 and 11) have shown that numerous quench microcracks (Figs 2 and 3a) form in the matrix crystals during the martensitic transformation. On graphitization annealing, numerous graphite inclusions form in the quench microcracks. It can be distinctly seen in steel quenched from high temperatures that the graphite inclusions form preferentially in the microcracks of former martensitic plates or in their joints (Figs 2 and 3). The number of graphite inclusions forming on annealing quenched steels and cast irons increases rapidly with the drop in temperature. The retention of the effect of preliminary quenching after austenitization is due to the presence of quench cracks. Damages and distortions arising in steel during the martensitic transformation disappear only after lengthy soaking of the specimens in the austenitic range. In order to find time required for austenitization to proceed to completion (i.e. for the effect of quench

 defects on graphitization to disappear), specimens of

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quenched steel, prior to graphitization, were heated and isothermally soaked for various lengths of time at 900, 940, 970, 1000 and 1100°C. These specimens were subsequently graphitized for 10 hours at 680°C in order to "expose" the damages in the matrix of the steel (Ref 5). Fig 4 shows a plot of the change of the number of graphite inclusions forming on annealing quenched steel as functions of the temperature and duration of austenitization prior to graphitizing annealing. The rate at which the damages (microcracks) and distortions of crystals of quenched steel heal in relation to austenitization temperature (at 900 to 1100°C) has an exponential character (see Fig 1, curve 1) and agrees with the results (curve 2) obtained by Bunin and Pogrebnoy (Ref 5). In the opinion of the authors, of this paper, the main reason for the acceleration of graphitization of quenched steels is the presence of quench damages and distortions of the matrix crystals. The dimensional and structural relationship between austenite and graphite has been shown by Repin and

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Effect of Quenching on the Graphitization of Cast Iron and Steel

Taran (Ref 12). A comparison between the atomic packing of carbon in the basal plane of graphite and the arrangement of unit cells in the octohedral plane of austenite (these being the most convenient places for carbon atoms) shows that the octohedral plane can be a good basis for the formation of graphite layers. The parameter deformation does not exceed 2.1% (Fig 5a). It has been found that ferrite can have a similar value (Fig 5b). In this case, the deformation associated with the spacing of iron atoms in the octohedral plane does not exceed 4%. From this it follows that the basic phases of iron alloys, austenite and ferrite, can be an even better basis for the formation of graphite than ε-carbide, for which the lattice deformation is 5% (Fig 5B). There are 5 figures and 14 references, 9 of which are Soviet, 4 French and 1 English

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Institute of Metallurgy)

Card 4/4

TARAN, Yu.N.

On the crystallization of cast iron alloyed with magnesium.
Lit.proizv. no.6:p.3 of cover S '54. (MLRA 7:10)
(Iron-magnesium alloys)

TARAN, Yu.N.; CHERNOVOL, A.V.

Effect of magnesium on the form of carbon impurities in annealing. Dop. AN URSR no.5:381-384 '54. (MLRA 8:7)

1. Dnipropetrovs'kiy institut im. I.V. Stalina. Predstaviv diysniy chlen AN URSR V.M. Svechnikov. (Iron--Metallurgy)

Taran, Yu. N.

17925 The Structure of Spheroidal Graphite. Yu. N. Taran. *Henry Brutcher, Altadena, Calif., Translation no. 5575, 6 p.* (From *Doklady Akademii Nauk SSSR*, v. 94, no. 3, 1954, p. 507-510.)

Previously abstracted from original. See item 14751, v. 3, Oct. 1954.

On the Formation of Graphite in Cast Irons Inoculated with Magnesium. K. P. Bunin and Yu. N. Taran. (*Doklady Akademii Nauk S.S.S.R.*, 1951, **96**, (6), 1061-1063). [In Russian]. The mechanism of growth of graphite inclusions is discussed. It is assumed that the process controlling the rate of growth and the shape of graphite inclusions is the removal of the atoms of iron in the austenite from the front of graphite segregation. As the space in the austenite is freed it is filled with carbon atoms thus leading to the growth of graphite inclusions. Magnesium as a surface active element concentrates on the grain boundaries slowing down the migration of iron atoms across the boundaries and therefore graphitic inclusions do not attain the branched shape characteristic of ordinary malleable cast irons. It is concluded that the processes in the metallic matrix removing iron atoms from the surface of graphite inclusions determine the shape of the latter.

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(1)

Dnepropetrovsk Met. Inst. im I. V. Stalin

Tarau, Yu. N.

USSR.

Structure of spheroidal graphite. Yu. N. Tarau (Met. Inst., Dnepropetrovsk). *Doklady Akad. Nauk S.S.S.R.* 56, 397-400(1954)(Brutcher Translation No. 3378).--Microscopic studies were made of the cross-sections of the graphite nodules in 8 gray cast irons. The chem. compns. were in the range C 1.5-3.6%, Si 0.55-2.6, Mn 0.45-0.82, P 0.03-0.48, and S 0.008-1.38%. One alloy was based on Ni rather than on Fe. Six of the alloys were modified with Mg and 2 were unmodified. In 5 of the alloys the graphite formed during solidification and in the others during an anneal. Each of the alloys showed both radial and nonradial nodules and both the presence and absence of a bright spot. Etching showed that there are [illegible] various aspects of a given nodule. Each nodule is polycryst. with the basal plane of each radial crystallite perpendicular to the radius of the nodule. A. G. Guy

BUNIN, Konstantin Petrovich; TARAN, Yuriy Nikolayevich; CHERNOVOL, Arkadiy Vasil'yevich; SVECHNIKOV, V.N., redaktor; IMAS, R.L., redaktor; RAKHMINA, N.P., tekhnicheskiy redaktor.

[Cast iron with globular graphite] Chugun s sharovidnym grafitom. Kiev, Izd-vo Akad.nauk USSR, 1955. 96 p.(MLRA 8:11)

1. Deystvitel'nyy chlen Akademii Nauk Ukrainskoy SSR(for Svechnikov)
(Cast iron)

USSR/Solid State Physics - Phase Transformations in Solids, E-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34705

Author: Bunin, K. P., Taran, Yu. N., Shpak, T. M.

Institution: None

Title: On Growth of Sphere-Like Inclusions of Graphite in Cast Irons

Original Periodical: Dokl. AN SSSR, 1955, 101, No 1, 65-67

Abstract: See Referat Zhur - Khim, 1955, 49861

1 of 1

TARAN, Yu.N.

The concretion of globular graphite inclusions in cast iron. K. P. Bunin, Yu. N. Taran, and [illegible]. Inst. Metal. Inst. Dnepropetrovsk. *Doklady Akad. Nauk S.S.S.R.* 101, 65-7 (1955).—Actual photomicrographs were studied of graphite-inclusion growth in white iron (C 3.1, Si 0.8, Mn 0.02, S 0.01%) obtained by fusing electrolytic Fe, Si, and electrode graphite mixt. in alundum crucibles and tempering at 900°. The inclusions were observed by interrupting the tempering at different stages by air cooling and examg. the sections micrographically. A 2nd sample studied was precutectic cast iron modified with Mg (C 3.10, Si 2.45, Mn 0.63, S 0.02%). The eutectic crystn. was interrupted by quenching the samples in water. The globular graphite was found to form in both samples by an accretion of C inclusions which grew from independently formed centers in an austenite and austenite-cementite matrix.

W. M. Sternberg

BUNIN, K.P.; TARAN, Yu.N.; SHPAK, T.M.

The form of graphite inclusions in modified magnesium pig iron. Dop. AN URSR no.5:443-445 '56. (MLRA 10:2)

1. Institut chornoi metalurgii Akademii nauk URSR, Dnipropetrovs'kiy metalurgiynyi institut.
(Cast iron)

TARAN, Yu. N.

BUNIN, K.P.; MALINOCHKA, Ya.N.; TARAN, Yu.N.

Graphite formation in gray magnesium cast iron. Lit.proizv. no.1:22-23 Ja '57. (MLRA 10:3)
(Cast iron--Metallography) (Magnesium alloys--Metallography)

TARAN, Yu N

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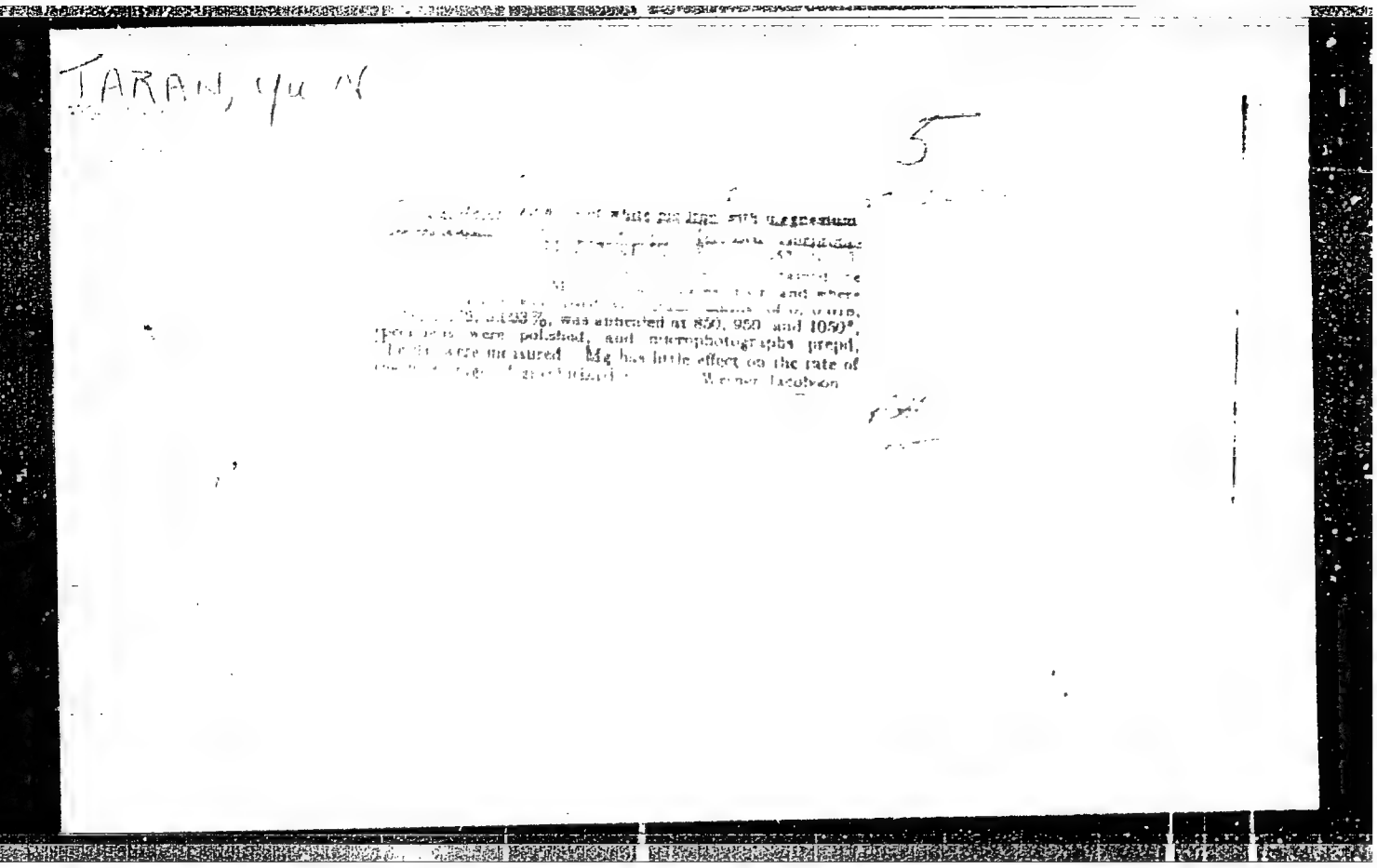

and where
, was annealed at 850, 950 and 1050°,
were polished, and microphotographs prepd,
were measured. Mg has little effect on the rate of
Werner Jacobson

BUNIN, K.P.; MALINOCHKA, Ya.N., kand.tekhn.nauk; TARAN, Yu.N., kand.tekhn.nauk.

Cast iron cooling curves. Lit.proizv. no.8:3 of cover Ag '57. (MIRA 10:10)

1.Chlen-korrespondent AN USSR (for Bunin).
(Cast iron--Cooling)

AUTHORS: Repin, A. K., Taran, Yu. N. SOV/163-58-2-40/46

TITLE: The Oriented Crystallization of Graphite in Cast Iron (Ob oriyentirovannoy kristallizatsii grafita v chugunakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Mettalurgiya, 1958, Nr 2, pp. 22o - 226 (USSR)

ABSTRACT: In the present paper investigations of the character and the characteristic features of spherical inclusions in manganese-cast iron alloys were carried out. The inclusions have a sector-type structure. Each sector has a parallel position of the crystals. In the vicinity of the center the sectors are found to be bent; these bent parts are at the surface always vertical to the graphite inclusions. The spherical graphite inclusions were investigated by means of the polarization effect. Based on the results obtained it was found that during the growth process in cast iron an oriented crystallization of the graphite with respect to austenite occurs. The direction of the growth of the graphite crystals leads to the center of the sectors and has peculiar bends. The fact of the oriented crystallization

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of graphite with respect to austenite is not only found during the growth of the spherical graphite inclusions but it is also observed in the separation of graphite at the surfaces of iron-carbon alloys during the thermal treatment of the metal in vacuum. There are 5 figures and 21 references, 13 of which are Soviet.

ASSOCIATION: Dnepropetrovskiy metallurgicheskiy institut (Dnepropetrovsk Metallurgical Institute)

SUBMITTED: October 1, 1957

Taran, Yu. N.

129-4-10/12

AUTHORS: Chernovol, A.V., and Taran, Yu. N., Candidates of Technical Sciences.

TITLE: Influence of magnesium on the kinetics of graphitization of white iron. (Vliyaniye magniya na kinetiku grafitizatsii belogo chuguna).

PERIODICAL: Metallovedeniye i Obrabotka Metallov, 1958, No.4, pp. 49-51 + 2 plates (USSR).

ABSTRACT: Contradictory views exist on the kinetics of graphitization of magnesium innoculated cast irons and this is attributed to the fact that insufficient experimental data are available on the subject. In this paper the results are given of investigations on the kinetics of graphitization of white iron with various quantities of magnesium. The iron contained: 3% C, 0.52% Si, 0.32% Mn, 0.021-0.002% S, 0.09% P and also the following magnesium contents: 0.018, 0.047, 0.076 and 0.093% respectively. The iron was produced in a high frequency furnace. Innoculation was effected by magnesium of 95.23% purity in the form of 20 mm dia. cylindrical rods cast into earthen moulds. Iron with a reduced Si content was chosen for the purpose of preventing formation of graphite during the cooling of the castings and this permitted

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Influence of magnesium on the kinetics of graphitization of white iron.

investigation in greater detail of the structural changes taking place during annealing. Graphitization was effected at 1050, 950 and 850°C and, for reducing decarburisation, the specimens were annealed in graphite crucibles inside a mixture of graphite and iron chips. Subsequently, the specimens were retrieved from the furnace and cooled in air. The degree of graphitization was determined from the decrease in the density of the metal and also from data of microscopic analysis. The results are described, giving micro-photographs and also graphs of the distribution of the graphite inclusions across the cross section of white iron without magnesium and with 0.093% Mg after annealing for five hours at 1050°C (Fig.3) as well as kinetic curves of the graphitization of white iron annealed at 1050°C without magnesium and with 0.093% Mg (Fig.4). The obtained experimental data do not confirm the hypotheses of formation of spheroidal graphite which are based on the assumption of formation of low stability carbides in magnesium innoculated iron; the authors did not observe any sharp slowing down in the graphitization of magnesium

 innoculated iron referred to by Guterman, S.G. et alii

Influence of magnesium on the kinetics of graphitization of white iron. 129-4-10/12

(Ref.3) and Landa, A.F. (Ref.4).
There are 4 figures and 5 references - 4 Russian, 1 English.

ASSOCIATION: Institute of Engineering Technology and Agricultural Mechanics, Ac. Sc. Ukrainian SSR.
(Institut mashinovedeniya i s.-kh. mekhaniki AN USSR)

AVAILABLE: Library of Congress.

Card 3/3

TARAN, Yu.N

AUTHOR: Makel'skiy, M. F. 30-58-4-22/44

TITLE: Research on Metal Crystallization
(Issledovaniya po kristallizatsii metallov)
Conference at the Institute for Machine Engineering
(Soveshchaniye v Institute mashinovedeniya)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 4
pp. 104-105 (USSR)

ABSTRACT: This conference on metal crystallization took place from January 28 - 31. It was the fourth conference organized by the Comission for Machine-Building Technology of the Institute for Machine Engineering of the AS USSR during the last years. Representatives of the academic and branch institutes, of plants and technical colleges, as well as foreign scientists took part in it. B. B. Gulyayev gave a survey on the present situation of crystallization research and of that of metal properties , as well as on the problems in this field. In the majority of reports besides theoretical research also suggestions for an improvement of the quality of metal casts of steel, cast iron and

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Research on Metal Crystallization
Conference at the Institute for Machine Engineering

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non-ferrous metals were dealt with. Further reports were:

1) N. N. Sirota on a general physical and mathematical theory of the formation and growth of crystals.
2) K. P. Bunin, Yu. N. Taran on the formation properties of graphite separations in eutectic alloys.
3) B. Ya. Lyubov on analytical research results of the hardening process.
4) A. G. Spasskiy on essential factors exercizing an influence on the structure of the cast.
5) M. V. Mal'tsev on the direction of crystallization processes.
6) O. N. Magnitskiy, A. A. Demidova, B. B. Gulyayev on the effect of the composition of the alloy on the crystallization and the properties of casts.
7) I. L. Mirkin on the effect of concentration fluctuations on the crystallization of complicated alloys.
8) G. F. Balandin on the mathematical theory of cast iron crystallization.

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9) D. S. Kamenetskaya, E. P. Rokhmanova, Ye. E. Spektor on the results of experiments on the crystallization kinetics of iron and its alloys.
10) I. A. Shapranov, E. V. Petrova on the rules of the development of the deficiency in carbon of cast iron.
11) B. S. Mil'man on the part played by the surface tension of the degassing process and of the desulfurization in cast iron crystallization.
12) Ya. N. Malinoch, A. A. Zhukov on the effect of inner-crystalline silicon segregation on the structure of cast iron.
13) D. Chikl' (DDR) on graphite and cast iron crystallization.
14) I. V. Sali on research methods for alloy structures.
15) N. I. Khvorinov (Czechoslovakia) on the formation of crystallization.

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Research on Metal Crystallization
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16) G. P. Ivantsov on the conditions of the cooling regime of the block.

17) N. N. Guglin, A. A. Novikova, B. B. Gulyayev on a new method for the determination of mechanical properties of a metal in the case of a great temperature interval.

18) V. Ye. Neymark on the methods and research results on the effect of different transformers on the crust deformation and the hardening velocity of the block.

19) V. G. Gruzin, P. I. Yamshanov, N. P. Neverova on problems of the formation of primary structure in constructional steel.

20) I. I. Goryunov on the modification effect on the structure and on the physical and mechanical properties of high-alloyed steels.

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21) F. F. Khimushkin, F. V. Aksenov, E. Ya. Rodina — on the formation of the heterogeneity in heat-resistant alloys in crystallization and heat treatment.

22) N. L. Pokrovskiy, D. Ye. Ovsiyenko — on the crystallization properties of various non-ferrous metal alloys.

23) N. N. Belousov, A. A. Dodonov — on research results on the crystallization and the properties of non-ferrous metal alloys under pressure.

Reports were also delivered on the metal crystallization in welding, ultra-sonic treatment a. o. In the final conclusion suggestions for the introduction of a number of methods were accepted and the principal directions of further research in metal crystallization were outlined.

1. Metallic crystals—Theory 2. Metallurgy—USSR

Card 5/5

AUTHOR: Gulyayev, B.B. SOV/24-58-4-37/39

TITLE: Conference on Crystallisation of Metals (Soveshchaniye po kristallizatsii metallov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 4, pp 153 - 155 (USSR)

ABSTRACT: This conference was held at the Institut mashinovedeniya AN SSSR (Institute of Mechanical Engineering of the Ac.Sc. USSR) on June 28-31, 1958. About 400 people participated and the participants included specialists in the fields of foundry, metallurgy, crystallography, physics, welding, heat, physical chemistry, mathematical physics and other related subjects. In addition to Soviet participants, foreign visitors included Professor D. Czikl (East Germany) and N.I. Chvorinov (Czechoslovakia). This conference on crystallisation of metals was the fourth conference relating to the general problem of the theory of foundry processes.

General Problems of Crystallisation of Metals

Member of the Ac.Sc. Belorussian SSR N.N. Sirota, in his paper "On the Mechanism of the Process of Crystallisation", proposed a general physico-mathematical theory on germination and the growth of crystals and described its application to problems of crystallisation of metals.

Corresponding Member of the Ac.Sc. Ukrainian SSR K.P. Bunin and Yu.N. Taran, in their paper "Eutectic Crystallisation of Grey Irons", considered the features of formation of graphite separations in eutectic alloys from the point of view of the general theory of crystallisation of iron.

B.Ya. Lyubov, in his paper "Calculation of the Speed of Solidification of Metals in Large Volumes", proposed a synthesis of the molecular-kinetic and of the thermal theories of crystallisation of metallic castings.

A.G. Spasskiy, in the paper "Fundamental Factors Influencing the Structure of Castings" and N.V. Mal'tsev in the paper "Methods of Improving the Quality of Cast Metal", described results of their investigations of crystallisation of castings from various alloys and considered methods of controlling such processes.

I.L. Mirkin dealt with the influence of fluctuations in the concentration on the formation of crystallisation nuclei and formation of crystals in complex alloys.

G.P. Ivantsov gave a review of the present concepts on germination and the growth of crystals. O.N. Magnitskiy, A.A. Demidova and B.B. Gulyayev considered the influence of the speed of crystallisation and the composition of the alloys on the quantitative characteristics of the structure and the mechanical properties of castings of the systems iron-carbon and aluminium-silicon. D.S. Kamenetskaya, B.P. Bakhmanova and Ye.Z. Spektor dealt with the results of investigation of the kinetics of crystallisation of iron and its alloys. G.F. Balandin proposed a mathematical theory of formation of the structure of castings and applied it for elucidating the features of crystallisation of iron. Ya.V. Grechnyy dealt with the features of crystallisation of binary alloys of various types.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754910009-5"

BUNIN, K.P.; GRECHNYY, Ya.V.; MALINOCHKA, Ya.N.; TARAN, Yu.N.; BEL'CHENKO, G.I.; POGREBNYY, E.N.; DANIL'CHENKO, N.M.; YATSENKO, A.I.; REPIN, A.K.; BARANOV, A.A.; SHPAK, T.M.

Is metastable austenite possible at a point higher than A_1?
Izv.vys.ucheb.zav.; chern.met. no.10:143-144 O '58.
(MIRA 11:12)

1. Dnepropetrovskiy metallurgicheskiy institut i Institut chernoy metallurgii AN USSR.
(Austenite) (Phase rule and equilibrium)